The Mediating Role of Classroom Learning Environment on the Relationship Between Social Skills and Academic Motivation

Wellie E. Cuenca, Jr[1*]., Rinante L. Genuba[2]

Professional Schools, University of Mindanao, PS Building, Matina, Davao City, Philippines

***Corresponding Author**

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ABSTRACT

The central aim of this quantitative non-experimental study was to determine the significant mediating effect of classroom learning environment on the relationship between social skills and students' academic motivation in Libungan District, Region XII, Philippines. This study employed a causal design and a stratified random sampling technique to select 302 respondents. The data were collected using standardized, adapted questionnaires and analyzed using the mean, standard deviation, Pearson's product-moment correlation and mediation analysis. Results revealed a high level of social skills and a very high level of academic motivation and classroom learning environment. In addition, a significant relationship existed between social skills and academic motivation, as well as between social skills and the classroom learning environment, and between the classroom learning environment and academic motivation. Moreover, the mediation analysis showed a statistically significant partial mediation of social skills on academic motivation through the classroom learning environment. These contributions suggest that students' social skills are associated with higher academic motivation, both directly and indirectly, by contributing to a more positive classroom learning environment.

Keywords: educational management, social skills, academic motivation, classroom learning environment, mediation analysis, Philippines **SDG Indicator: #4** (Quality Education)

INTRODUCTION

A common factor in education is that at least some students regularly demonstrate little to no effort in academic pursuits. These students exhibit hallmark red flags, such as being frequently late, rarely being prepared for class, or not turning in work on time or at all. Such symptoms are a warning sign for low academic motivation and can very quickly snowball into a classroom-wide problem that affects all other students. As Alsubaie[1] stated in their paper, interventions on such runaway issues need to be addressed promptly to maintain the proper functioning of the classroom, and the teacher, being the foremost authority figure on the ground, should be the first to recognize and intervene.

This is particularly concerning, as motivation among students is integral to their learning and eventual success. As said, in a classroom environment, each individual has a subtle but undeniable effect on others and allowing disruptive behavior can send the wrong message to the others that this behavior is acceptable. Conversely, even having just mentally neutral students will make it easier to create an interactive classroom environment, greatly increasing students' involvement, creativity, and innovation.

The topic of the interconnectivity between social skills and academic motivation is one in which a large degree of variance stems from individuals themselves. As each person has their own preferences regarding sociability, the motivation they derive from it is highly subjective. However, research by Sánchez-Bolívar et al.[2] shows that, for the most part, students are largely socially dependent individuals. When considered collectively, they find that positive social interactions can also improve their motivation to achieve academically. Of course, their study also shows that the inverse is a very real possibility, wherein poor social interactions, such as bullying and ostracism, can lead to markedly decreased motivation.

Meanwhile, social skills have a distinct correlation with any environment. As stated by Tomé-Fernández, Aranda-Vega and Ortiz-Marcos[3] in their paper on the effects of culture on social development, social skills are highly dependent on local culture, expectations, and the immediate environment. This is even more starkly apparent when the local culture is concentrated in the small social bubble, we call a 'school', wherein separate rules, regulations, and expectations are put forward for students that are wholly distinct from what they are expected to do outside of school.

Likewise, academic motivation is a topic with varying stands among previous research studies. The sheer number of motivational sources, as well as the various issues related to academic achievement, is far too varied to be encompassed in a single overarching designation, such as 'academic motivation'. For example, research by Ali, Masroor and Khan[4] revealed a weak or nonexistent correlation between environmental adjustments and motivation for achieving oral communication. In contrast, Lin et al.[5] found that adjusting the Thinking Styles variable within a classroom environment had a statistically significant effect on improving motivation for language creativity.

Social Skills, especially in the classroom, have long been recognized as important markers and variables in students' overall mental growth. Over the years, much has been documented about the development of social skills, directly indicating how an individual adapts to communities or niches and identifies age-appropriate social and behavioral characteristics.[6] Studies have also examined how to leverage the inherent network effect of developing social skills to identify problematic individuals and behaviors early, as in Choi et al.[7]

Needless to say, the study of social skills have been utilized in many differing lines of inquiry, as the social skills as a variable is able to influence and be influenced by the complex dynamics of an educational institution such as that of a study by Wole, Nagase and Abebe[8] where, among other things, the level and active development of social skills is directly tied to academic achievement in mathematics. This is not unique to a specific subject either, as the human condition as a social creature makes them more susceptible to being influenced by how they and their peers interact, as shown in many prior studies.

Academic Motivation represents the primary driving force for most students and has been identified as one of the most significant indicators of academic achievement and personal development. As such, it is no surprise that much time and effort have been devoted to understanding the myriad influences on student motivation. Many of these studies focus first on the social well-being of students, rationalizing that this is the most relevant and intuitive connection to make, and studies like those of Rahimi, Etedali and Latifhadad[9] do show a significant connection; however, over the years, the complexity of human motivation has only ever deepened.

For example, emotional regulation, agency, and a subjective perception of choice have likewise been identified, many of them a direct result of careful inquiry during the most recent pandemic. Studies by Liang and Mao[10] and Berdida[11] provide a retrospective look at the impact of even things we normally take for granted, such as easy access to peers, or the effect of having an individual in authority overseeing affairs within a classroom. There are likely other avenues of thought that have yet to be explored, and some that differ across countries, but all prior research has shown that academic motivation is as complex as the human condition.

The classroom learning environment has long been considered an integral part of the learning process, such that even in the earliest days of learning, great care was taken to make the surrounding area as conducive to learning as possible. In the early days, this was often done by removing sources of distraction, but over the decades that followed, education quickly refined it into a science. Nowadays, modern management of the classroom learning environment often involves subtle yet impactful arrangements of objects, stimulating positioning relative to the rest of the campus, or even structural considerations to maintain the stability and efficiency of lessons.[12]

Recent concerns about the classroom learning environment often center on optimization and adaptability. Each group of students is different, and accommodating their needs can be a challenge. Studies such as those of Chou[13] have yielded meaningful conclusions regarding the management of students' psychology in the classroom to enhance its function. Likewise, Bizimana[14] shows how impactful the presence of an authority figure is and how they can leverage their position in order to manage and intervene in the classroom as necessary. Looking at the most recent inquiries into the topic, it is clear that most of the attention has been on managing the environment

through individuals within it and manipulating this effect to improve the environment beyond its physical capacity.

Numerous studies have investigated the relationships between social skills and academic competencies,[15] social skills and classroom management,[16] and classroom environment and achievement motivation.[17] However, the author never encountered a single study on social skills, academic motivation and classroom learning environment. Hence, this study seeks to fill this gap and determine the mediating role of the classroom learning environment in the relationship between social skills and academic motivation.

This study aims to investigate the mediating role of the classroom learning environment in the relationship between social skills and academic motivation among Grade 12 students. Specifically, the study seeks to attain the following objectives:

First, to describe the level of social skills in terms of self-control, cooperation, assertion, responsibility, empathy, externalizing behavior, and internalizing behavior. Second, to determine the level of academic motivation across external, introjected, identified, and intrinsic regulation. Third, assess the level of the classroom learning environment in terms of general, personal, values and beliefs, and persistence in a major.

Fourth, to determine the significance of the relationship between social skills and academic motivation, social skills and classroom learning environment, and classroom learning environment and academic motivation. Lastly, to determine the significant mediating effect of the classroom learning environment on the relationship between social skills and academic motivation.

In addition, the following hypotheses were tested at the 0.05 level of significance: First, there is no significant relationship between social skills and academic motivation; between social skills and the classroom learning environment; and between the classroom learning environment and academic motivation. Second, there is no mediating effect of the classroom learning environment on the relationship between social skills and students' academic motivation.

This study is anchored on the concepts and premises of Bandura's[18] Social Cognitive Theory, which in itself is an expansion of their Prior 1977 Social Learning Theory. The Social Cognitive Theory is particularly relevant because it supports the idea of reciprocal determinism, a phenomenon readily apparent in the study. This concept states that personal, environmental, and behavioral factors each influence one another in a cyclical, reciprocal manner, much as the comparisons and dynamic relationships among social skills, classroom climate, and motivation highlighted in the study.

In support of this theory is Bandura's[19] Social Learning Theory, which links social skills to Academic Motivation. The theory itself highlights the tendency of humans to take social cues from their environment to facilitate learning. This means considering societal norms, peer signaling, and cultural expectations as they are leveraged onto individual minds when assessing which variables could affect the outcome of their learning experience. This study will dictate how the significance of these changes affects each respondent on an individual level.

Next, this study utilized the concepts from Fraser's[20] Classroom Environment Theory. While the titular idea of his research emphasizes the dynamic nature of a classroom as a tool of learning, it also includes detailed discourse on the role of social interactions within the school, attributing it as one of the many dynamic variables that affect how the tool known as a 'classroom' functions and is perceived by those who utilize it. He also cautions in his paper that while the end goals or outcomes of academic achievement are seen as a high priority, focusing solely on these outcomes blinds onlookers to the fact that this is but a small part of what is necessary to consider when assessing the efficacy of a classroom environment.

Lastly, the study turns to Kolb's[21] Experiential Learning Theory to link Academic Motivation and the Classroom Learning Environment. Kolb's Theory, in particular, emphasizes the impact of the learning environment as a practical stage where students can apply theory in real-world scenarios, or, in most cases, in acceptable simulations. Kolb theorizes that such interactivity directly drives motivation through involvement, and that involvement itself feeds into a positive loop that further encourages active participation among students as they see the tangible results of their involvement.

Figure 1 shows the conceptual framework of the study. The independent variable is social skills, the dependent variable is academic motivation, and the mediating variable is the classroom learning environment. The independent variable is assumed to influence the dependent variable being tested and measured. The mediating variable serves as a link between the independent and dependent variables. Its existence helps explain their relationship.

The latent social skills have seven indicators: self-control, cooperation, assertion, responsibility and empathy. Self-control is defined as an individual's capacity to remain stable in the face of adversity or external pressure. Cooperation is defined as the process by which individuals work towards a common goal. An assertion is an action or statement backed by firm belief. Responsibility is defined as an individual's sense of personal duty. Empathy is the capacity of an individual to understand and share another person's emotional state.[22]

Social skills are a set of personal skills that an individual develops throughout their life, highly dependent on their upbringing, environment, and cultural norms. It is a highly important skill set that affects many facets of human life, as modern civilization is deeply intertwined with society, which itself demands that certain social norms be followed. Moreno and Jurado[23] emphasize the importance of social skills, which not only influence the learning process but also foster mental resilience in individuals, particularly adolescents, as they develop their own identities. Such growth likewise directly affects how these individuals learn and perceive the act of learning.

The independent variable, academic motivation, has four indicators: external regulation, introjected regulation, identified regulation, and intrinsic regulation. External regulation refers to an individual's perception of societal demands for success and social acceptance. Introjected regulation is an individual's inherent drive to prove or validate their self-worth. Identified regulation is a realistic approach to understanding why something must be done, whether to improve one's life or to prevent misfortune. Intrinsic regulation is defined as the individual's desire or motivation to achieve a specified goal or challenge through their own efforts.[24]

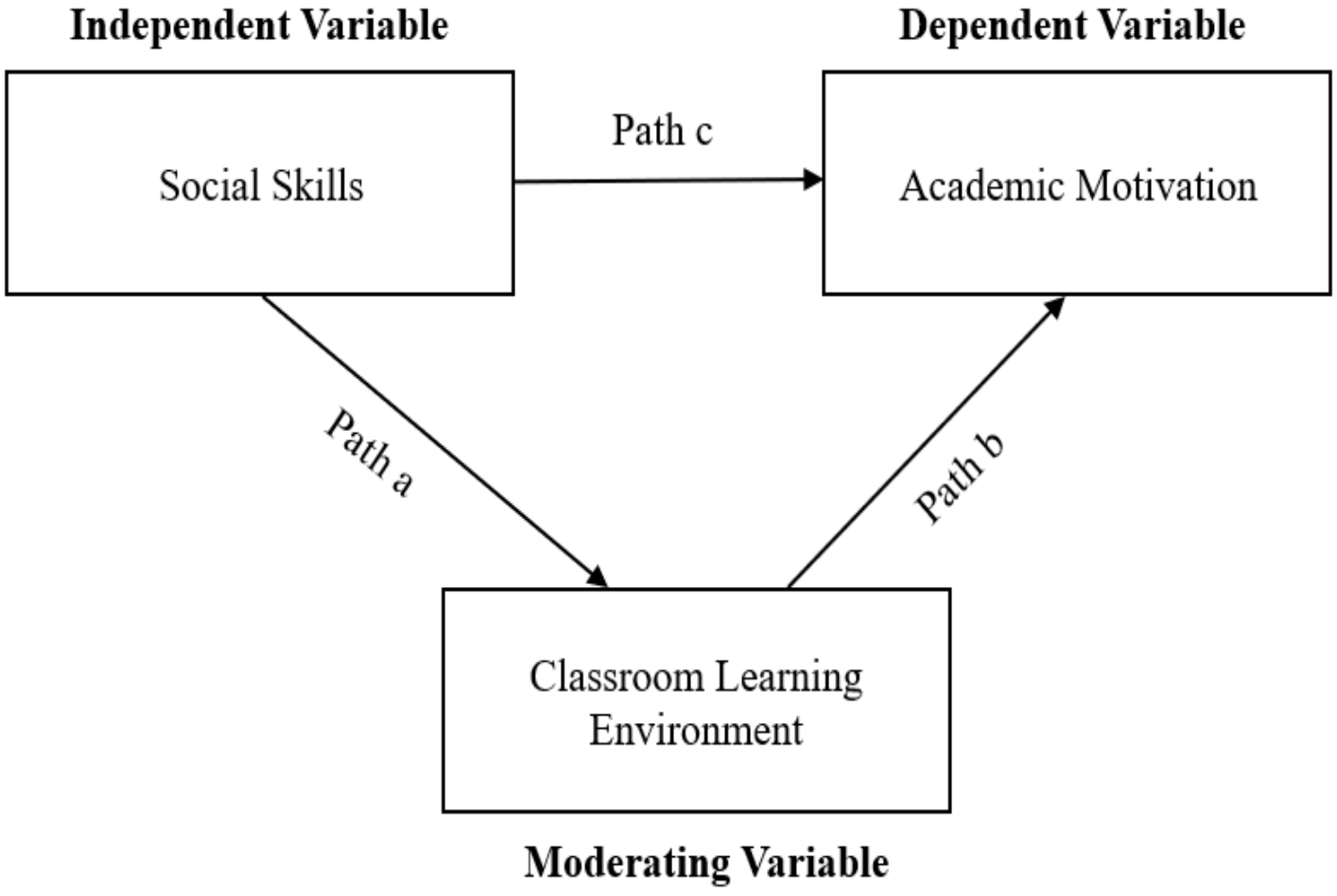


Figure 1. Conceptual Framework of the Study

Academic motivation is a set of processes that involve both cognitive and affective behaviors. According to De Lama and Brenlla[25] such methods often require assessing the activation, direction, and persistence of the subject's behavior. This means that for individuals who can visualize a clear goal and link their wants and needs to it, the risk of stagnation can be reduced. As motivation can come from either extrinsic or intrinsic factors, it is a variable that can be manipulated through targeted interventions for the individual.

The mediating variable, the classroom learning environment, has six indicators. General is defined as the localized collection of physical and societal variables that students and teachers interact with. Personal refers to how the student feels in the classroom. Values and beliefs represent the respondent's attitudes and perspectives regarding societal diversity. Persistence in a major is the respondent's feelings of competence with the subject matter of the course, especially as a result of experience in the course.[26]

Learning can occur in any environment, any location. However, in many areas, such as education, having the proper tools and implements can greatly increase the efficiency of actions compared to those without them, according to Widiyawanti and Wahyono.[12] This also holds true for the classroom as an educational tool. The environment it encompasses is isolated enough that students are forced to acknowledge and interact with its presence throughout the learning process, and this can be manipulated so that the classroom environment aids rather than hinders the teacher's learning.

As mentioned, research into education is a continually evolving field of study. As civilization advances and culture enters the next era, expectations change, tools evolve, and every aspect of humanity is forced to adapt. This concept is significant for addressing the global learning crisis and the post-pandemic recovery by mitigating motivational loss. The data from Programme for International Student Assessment (PISA) 2022 shows that nearly half of students in Organization for Economic Co-operation and Development (OECD)[27] countries struggle with self-motivation. This study offers a solution by showing how educators can redesign the psychosocial classroom climate to reignite that drive.

This study also advances Sustainable Development Goal 4 (SDG 4) by ensuring inclusive and equitable quality education. This study provides evidence-based strategies for UNESCO’s Global Alliance on the Science of Learning, which seeks to leverage scientific knowledge to improve learning environments and outcomes worldwide. It also cultivates prosocial values, promoting cooperation over competition. This study emphasizes that when a classroom environment is designed to mediate social skills, it shifts the focus from individualistic competition to collaborative learning. This fosters the social value of teamwork, as students learn that their personal success is often linked to the success of their peers.

For school administrators, this study provides evidence to design, maintain, and foster inclusive and safe classroom environments that support overall student engagement. For teachers, this emphasizes that social skills alone are insufficient. Cultivating a conducive classroom environment is a direct predictor of improved motivation and active engagement. Finally, for future researchers, this acts as a foundation for further studies on how physical facilities and interpersonal relationships impact learning outcomes.

METHOD

This section thoroughly discusses the methodology used in this study. This includes research respondents, materials, instrument, research design and procedure.

Research Respondents

The sample population in this study comprises 302 Grade 12 students from public schools in Region XII. These students were selected from a total of 555 who were officially enrolled in the 2024-2025 academic year. The sample size calculated by Raosoft[28] is 117, with a confidence level of 0.95, a margin of error of 0.05, and a population size of 167. Therefore, a total of 302 respondents is generally beneficial for this study, as it increases statistical power and reduces the margin of error.

Each participant was selected according to the principles of Stratified Random Sampling. This technique involves dividing a population into smaller subgroups, called strata. In this study, strata are formed based on respondents' shared attributes, such as age and educational level. Stratified random sampling can yield more precise estimates of population characteristics, reduce sampling bias, and make data collection more efficient and accurate.[29]

The respondents in this study were Grade 12 students aged 18 years and above, currently enrolled in the Humanities and Social Sciences (HUMSS), Home Economics (HE), and Technical-Vocational-Livelihood (TVL) tracks. These were the only three strands offered at five public schools in Libungan District, Region XII, Philippines. The researcher determined that this population was suitable for participation in the study due to their relevant positions and experiences that align with the research objectives. Excluded from the survey are all K-11 students, as well as parents, school heads, and DepEd officials. The study examined the mediating role of the classroom learning environment in the relationship between social skills and academic motivation.

Participants may be withdrawn from the research study for committing falsification, plagiarism, or other serious offenses. Additionally, those with health conditions or special needs may also be withdrawn. Individuals can choose to cancel if they feel troubled, uneasy, or embarrassed. They need to inform the researcher of their decision to withdraw from the study. Any participant who wishes to leave the survey has the right to share their reasons if they choose, but they were not pressured to provide a valid excuse.

The researcher conducted the study in the Libungan District, Region XII, Philippines. This location was chosen because the researcher resides in the region. The study aimed to explore whether the classroom learning environment mediates the relationship between social skills and academic motivation among Grade 12 students.

Materials and Instrument

The researcher adapted existing questionnaires from online sources and modified them to incorporate only the items relevant to the study's objectives. The instrument consists of an independent variable, a dependent variable, and a mediating variable. Ruga[22] developed the Social Skills Scale (SSS), comprising 39 items. Alivernini and Lucidi[24] developed the Academic Motivation Scale (AMS) with 16 items, and McGhee, Lowell and Lemire[26] developed the Classroom Learning Environment Scale (CLES) with 59 items. spread out across four subscales. The questionnaire was developed to identify students' social behavior, determine what motivates them to complete their studies, and gather useful information to improve their learning environment.

A five-point Likert scale was used to evaluate the social skills, academic motivation, and classroom learning environment of grade 12 students of Libungan District, Region XII, Philippines. A mean of 4.20 to 5.00 is considered very high, indicating that the indicators are always observed. The 3.40 to 4.19 mean range is considered high, indicating that the indicators are often observed. The 2.60 to 3.39 mean range is considered a moderate level, indicating that the indicators are sometimes observed. The range of 1.80 to 2.59 is considered a low level, indicating that these indicators are rarely observed. Finally, a mean of 1.00 to 1.79 is considered very low, implying that the indicators are never observed.

The survey tool used for this study was validated by experts for reliability and received an average score of 4.69. After validation, the questionnaire underwent pilot testing. The results were tabulated, and Cronbach's alpha was used to assess the internal consistency and reliability of the items. SSS got a Cronbach's alpha of 0.81, AMS got 0.84, and CLES got 0.90. This statistic evaluated whether a collection of items consistently measures the same characteristic. Cronbach's alpha provides a standardized score on a scale from 0 to 1, with higher values indicating greater agreement among items.[30]

Design and Procedure

This study utilized a quantitative, non-experimental, descriptive-correlational research design. This method collected numerical data to answer the research objectives and tested theories, hypotheses, or assumptions. In essence, it investigated relationships in a population between variables without controlling or manipulating

them.[31,32] Then a mediation analysis to investigate how the independent variable impacts the dependent variable through the mechanism of the mediating variable, which decomposes the total effect of the independent variable into direct and indirect effects.[33]

All relevant documents necessary for the study were collected and submitted, including a permission letter signed by the researcher's adviser and by the Program Dean. Pilot testing began after securing ethics approval and Certification. The researcher personally submitted the validated survey instrument, together with the required documents, to the office of the Department of Education (DepEd) Regional Director of Region XII.

After obtaining the Director's approval letter, the researcher proceeded to the principal's office of a public high school in the Libungan District. The principals then granted the researcher permission to administer the questionnaire to the grade 12 students. Once the responses were collected, the researcher submitted the encoded results to an expert for statistical analysis and interpretation. The study was scheduled to take place from September 1 to 19, 2025, during the second semester of the 2024-2025 school year.

This study employed the following statistical tools to address the research objectives: frequency, Mean, and Standard Deviation were used to determine measures of central tendency in assessing the levels of social skills, academic motivation, and classroom learning environment among grade 12 students. The Pearson Product-Moment Correlation measures the strength of the relationships between social skills, academic motivation, and classroom learning environment. Multiple Regression analysis helps the researcher understand how an independent variable (Social Skills) affects the dependent variable (Academic Motivation) through the mediating variable (Classroom Learning Environment).

The Sobel z-test determines the significance of a mediation effect. The relationship between social skills and academic motivation is hypothesized to be indirect, resulting from the classroom learning environment. This determines whether the mediation effect is statistically significant.

MedGraph is a mediation model that illustrates the hypothesized causal chain in which the classroom learning environment explains how social skills affect academic motivation. This will also test the significance of each path to determine if a mediating effect is present.

In accordance with the University of Mindanao Ethics Research Committee guidelines, with protocol number UMERC-2025-265, the researcher adhered to strict ethical standards while conducting the study to protect the rights and welfare of the respondents. This includes ensuring voluntary participation, maintaining privacy and confidentiality, obtaining informed consent, avoiding plagiarism and falsification, managing conflicts of interest, and preventing deceit. These standards guarantee that the research results were based on the integrity of the methodology used without any external interference.

RESULTS AND DISCUSSION

This section presents the study's objective findings and data, supported by tables and figures. This interprets the results, discusses their significance, and outlines the study's theoretical and practical implications.

Social Skills

Shown in Table 1 is the level of Social Skills. The result is measured by seven indicators: *self-control, cooperation, assertion, responsibility, empathy, externalizing behavior*, and *internalizing behavior*. The overall standard deviation is 0.35, and the overall mean is 3.61. This means that students' social skills are often observed. *Empathy* scores the highest, with a mean of 4.24, indicating a very high descriptive level. This suggests that *empathy* is always observed. In contrast, *externalizing behavior* had a low descriptive level, with a mean of 2.34, implying that social skills are seldom observed.

The results shown in Table 1 suggest a notable distinction between adaptation and adoption in terms of self-application within a limited cultural context. As *empathy* showed a markedly higher score than most other

indicators, it also suggests a clear bias toward interpersonal dynamics playing a greater role in the development of social skills. This focus on social networking, that of changing the outward perspective of their peers toward them to better fit the environment or social niche, is consistent with prior research by Tomé-Fernández, Aranda-Vega and Ortiz-Marcos.[3] The prominence of empathy relative to the other indicators likewise shows that integration is subjectively far more important than self-expression, as seen in research by Chow et al.[34] - though the latter still occurs to a minimal degree.

Table 1. Level of Social Skills

Indicators	SD	Mean	Descriptive Level
Self-Control	0.70	3.98	High
Cooperation	0.69	3.95	High
Assertion	0.70	3.46	High
Responsibility	0.67	4.19	High
Empathy	0.67	4.24	Very High
Externalizing Behavior	0.72	2.34	Low
Internalizing Behavior	0.87	3.08	Moderate
Overall	**0.35**	**3.61**	**High**

The appended table on *externalizing behavior* suggests that respondents, on the whole, tend to use less socially direct means to externalize their behavior. For emphasis, the lowest mean is for talking back, which indicates a direct means of initiating conflict, a behavior actively avoided by individuals in this space, a phenomenon also observed in prior research by Ali, Masroor and Khan.[4] In contrast, the most common form of externalizing behavior appears to be the extreme end of the emotional spectrum, specifically anger, as shown by Hoogendijk et al. [35]

Academic Motivation

Academic motivation is measured using four indicators: *external regulation, introjected regulation, identified regulation*, and *intrinsic regulation*. The overall standard deviation of is 0.55 and the overall mean is 4.51. *Introjected regulation* obtained the highest mean of 4.68, while *intrinsic regulation* got the lowest mean of 4.38. The result means that the indicators of academic motivation are always observed.

Table 2 reveals that the academic motivation is consistently rated as very high across all types of regulation, with *external*, *introjected*, *identified*, and *intrinsic regulations* all scoring very high on the descriptive level. This strongly implies a substantial level of motivation while within the specific learning environments dealt with during the study, which may correlate to an overall higher importance being placed on academic excellence through social expectations[36] or simply that the environment itself encourages motivation in all four variants of regulation as presented by Alivernini and Lucidi. [24]

Table 2. Level of Academic Motivation

Indicators	SD	Mean	Descriptive Level
External Regulation	0.57	4.60	Very High
Introjected Regulation	0.47	4.68	Very High
Identified Regulation	0.77	4.39	Very High
Intrinsic Regulation	0.75	4.38	Very High
Overall	**0.55**	**4.51**	**Very High**

The lowest among indicators of academic motivation is *intrinsic regulation*, which, while retaining its descriptive level of very high, still indicates it is the least important motivator among respondents. This implies that motivators from external sources outweigh those from within, although not by a significant margin. Such a result supports prior studies by De Lama and Brenlla[25] and Yates and Patall,[37] which suggest that the presentation of motivating factors is fundamentally affected by external stimuli. However, their results show far greater significance than the relatively similar outcomes of the academic motivation indicators in this study.

Classroom Learning Environment

Table 3 displays four indicators of the classroom learning environment: *general, personal, values and beliefs*, and *persistence in the major*. The overall standard deviation is 0.51, and the overall mean is 4.26. *General* got the highest mean of 4.40 with a very high descriptive level. This means that the indicator is always observed. Meanwhile, *values and beliefs* had the lowest mean of 4.12 and the highest descriptive level. This shows that indicators of the classroom learning environment are sometimes observed.

Table 3. Level of Classroom Learning Environment

Indicators	SD	Mean	Descriptive Level
General	0.58	4.40	Very High
Personal	0.67	4.14	High
Values and Beliefs	0.67	4.12	High
Persistence in Major	0.65	4.38	Very High
Overall	**0.51**	**4.26**	**Very High**

Table 3 shows a very high descriptive level across its indicators, indicating that respondents' learning environments were generally perceived as positive. Eponymously, it is also the *general* indicator for the classroom learning environment that scored highest, though only by a subtle margin. This indicates a well-rounded representation of the classroom learning environment, likely reflecting the holistic nature of most learning environments. This mirrors the work of Noor et al.[17] in Afghanistan, where the general attitude and behavior had a significant impact on students' perceptions of their learning environment. While their study showed no significant effects from demographics such as gender and class, they noted that these variables may have a stronger impact where culture has a considerable influence on these considerations.

The lowest-ranked indicator at the descriptive level is *values and beliefs*. Although the significance of it being the lowest is somewhat diminished by the fact that the difference is a mere 0.02 units, it is still worth noting that it has the least significance among the others. This could indicate that while it is still readily apparent in many institutions, the sharing of belief is moderated within classroom learning environments for one reason or another, one of them being that doing so tends to increase tensions and sow unneeded discord as shown in prior research by Arrenius, Shook and Audette[38] as well as Abboud-Armaly et. al.[39]

Relationship between Social Skills and Academic Motivation

Shown in Table 4 is the relationship between social skills and academic motivation. The overall computed r-value is 0.463 with a p-value less than 0.05. Thus, the null hypothesis is rejected. Social skills were positively and significantly associated with academic motivation across most regulation types. The overall social-skills composite correlated significantly with *external, introjected, identified* and *intrinsic regulations*.

Among individual skills, *empathy showed* the strongest relation with intrinsic regulation. *Cooperation* and r*esponsibility* also yielded large, significant positive correlations. *Self-control* demonstrated modest but significant positive relations with *identified* and *intrinsic regulations*. *Assertion* shows a weak correlation with *external, introjected,* and *identified regulations*. In contrast, problem behaviors tended to show small negative associations. *Externalizing behavior* was negatively correlated with all the indicators of academic motivation, and *internalizing behavior* showed a small negative relation *with introjected, identified* and *intrinsic regulations*.

Table 4. Relationship between Social Skills and Academic Motivation

Social Skills	Academic Motivation				
	External Regulation	Introjected Regulation	Identified Regulation	Intrinsic Regulation	**Overall**
Self-Control	.105 .247	.227* .011	.243** .006	.242** .007	**.242**** **.007**
Cooperation	.378** .000	.478** .000	.459** .000	.536** .000	**.542**** **.000**
Assertion	.001 .989	.146 .106	.040 .661	.300** .001	**.147** **.103**
Responsibility	.367** .000	.523** .000	.442** .000	.501** .000	**.531**** **.000**
Empathy	.426** .000	.549** .000	.415** .000	.607** .000	**.579**** **.000**
Externalizing Behavior	-.131 .148	-.207* .021	-.140 .122	-.193* .032	-**.192*** **.033**
Internalizing Behavior	.020 .822	-.102 .258	-.137 .130	-.182* .044	-**.126** **.163**
Overall	**.320**** **.000**	**.434**** **.000**	**.352**** **.000**	**.484**** **.000**	**.463**** **.000**

The table shows a significant positive association between social skills and academic motivation across all indicators. In particular, *empathy* showed the largest correlation with *intrinsic* and overall motivation, with *cooperation* and *responsibility* not far behind. These three factors suggest that students who exhibit higher levels of *empathy*, collaborative thinking, and initiative will, in turn, show higher levels of motivated behavior. Conversely, *externalizing behavior* had a modest negative impact on academic motivation, suggesting that such behavioral acts, such as outbursts, may undermine learning engagement to some degree.

These results align with Ahmed's[16] prior research on classroom management and the enhancement of learners' social skills, highlighting the importance of socio-emotional competencies and their positive impact on the social environment within the learning environment. The positive effects of *cooperation* and *empathy* can foster positive peer-to-peer relationships and student-teacher interactions, creating a more cohesive and engaging experience for everyone involved, as seen in research by Zhang et al.[40] Likewise, qualities such as self-control that limit undesirable outbursts from externalizing behavior can also limit the damaging effects of discord and conflict.

Relationship between Social Skills and Classroom Learning Environment

The correlations in Table 5 reveal consistent, mostly positive relationships between social skills dimensions and the classroom learning environment. The overall social skills correlate positively with the overall classroom learning environment, with an r-value of 0.334 and a p-value less than 0.05. Therefore, the null hypothesis is rejected. *Empathy* displays the strongest positive associations across environment domains, while *internalizing behavior* shows significant negative associations with all four domains.

These results indicate that students who perceive more positive classroom environments, whether in the *general* classroom climate, *personal, values and beliefs,* or *persistence in major,* also report higher levels of *empathy, responsibility, empathy, cooperation, self-control* and *assertion.* Conversely, more positive classroom environments are associated with lower levels of *internalizing* and *externalizing behaviors*. Because the analyses are correlational, these findings reflect associations rather than causal effects; nevertheless, the pattern suggests that the students' social skills and classroom learning environment are closely linked.

Table 5. Relationship between Social Skills and Classroom Learning Environment

Social Skills	Classroom Learning Environment				
	General	Personal	Values and Beliefs	Persistence in Major	Overall
Self-Control	.255** .004	.184* .041	.176 .050	.119 .189	**.231* .010**
Cooperation	.287** .001	.388** .000	.307** .001	.350** .000	**.425** .000**
Assertion	.106 .241	.240** .007	.208* .021	.150 .097	**.227* .011**
Responsibility	.406** .000	.485** .000	.199* .027	.370** .000	**.462** .000**
Empathy	.466** .000	.538** .000	.353** .000	.322** .000	**.532** .000**
Externalizing Behavior	-.086 .344	-.209* .020	-.227* .011	-.276** .002	**-.259** .004**
Internalizing Behavior	-.241** .007	-.224* .012	-.254** .004	-.244** .006	**-.306** .001**
Overall	**.309** .000**	**.366** .000**	**.188* .037**	**.195* .030**	**.334** .000**

Table 5 shows that *empathy, responsibility,* and *cooperation* display the highest correlation. This result suggests that such elements that encourage peer respect, shared classroom values, and accountability are especially influential in creating a positive and constructive learning environment. Responsibility's strong ties to personal and persistence-related individual traits indicate a strong likelihood that it will eventually cascade onto others within the local learning environment. On the other hand, *externalizing* and *internalizing behaviors* exhibit a negative correlation with environmental dimensions, which, when considered in alongside the previous context, suggests that individual expression has a far less positive impact and could even negatively affect the learning environment itself.

These findings agree with De Lama and Brenlla's[25] research, albeit in a roundabout way. In their study, they highlighted that, at high levels, procrastination, a form of *externalizing behavior,* has no significant impact on motivation and the learning environment in relation to projected levels at that stage. However, lower levels of such behavior have distinct negative effects across all participants, showing a clear negative correlation between individualistic behaviors and the cooperative values emphasized above, as also shown in research on intercultural tolerances by Tihomirova, Georgieva and Mineva-Dimitrova.[41]

Relationship between Classroom Learning Environment and Academic Motivation

The correlations between aspects of the classroom learning environment (CLE) and academic motivation were positive and statistically significant. The overall computed r-value is 0.653 with a p-value less than 0.05. Thus, the null hypothesis is rejected. *Personal* CLE showed a strong association with academic motivation. While *persistence in major* CLE showed the weakest, yet still significant, positive correlations with academic motivation.

Table 6 shows a significant relationship between *personal* CLE and academic motivation domains, as well as between CLE indicators and *intrinsic regulation*. This implies a strong association among students who perceive the classroom as something personally relevant and responsive to their needs. Thus, they are more likely to pursue their own individual interests and participate in cooperative activities to advance their personal objectives.

Table 6. Relationship between Classroom Learning Environment and Academic Motivation

Classroom Learning Environment	Academic Motivation				
	External Regulation	Introjected Regulation	Identified Regulation	Intrinsic Regulation	**Overall**
General	.412** .000	.525** .000	.518** .000	.612** .000	**.608** .000**
Personal	.462** .000	.572** .000	.573** .000	.633** .000	**.658** .000**
Values and Beliefs	.361** .000	.387** .000	.364** .000	.477** .000	**.465** .000**
Persistence in Major	.264** .003	.285** .001	.277** .002	.321** .000	**.336** .000**
Overall	**.474** .000**	**.559** .000**	**.546** .000**	**.646** .000**	**.653** .000**

The result strongly implies that students seek aspects of the classroom environment that support their autonomy and goals, which, in turn, encourages relevance and engagement with the greater whole. This aligns with prior research conducted by McGhee, Lowell and Lemire,[26] who explored the positive and negative aspects of the classroom environment most affected student engagement. In support of the above results, their inquiry also revealed that the positive aspects of the classroom learning environment, such as a culture of respect for diversity and inclusion, drew significantly more engagement than did discrimination, a finding also mirrored by Sepadi's[42] research.

Influence of Social Skills and Academic Motivation as Mediated by the Classroom Learning Environment

The mediation analysis showed a significant total effect of the independent variable on the dependent variable, where β is equal to 0.463 and the p-value less than 0.05. The effect of the social skills on the classroom learning environment was also significant, where β is 0.344 and the p-value is less than 0.05, as was the effect of the classroom learning environment on academic motivation, controlling for social skills, where β is equal to 0.561 and the p-value less than 0.05. After including the classroom learning environment, the direct effect of the social skills on the academic motivation remained significant but was reduced in magnitude, where β is 0.275 and the p-value less than 0.05.

These results indicate that academic motivation positively predicts the classroom learning environment, and in turn, strongly predicts the outcome. Because the direct effect remains significant but is smaller than the total effect, the classroom learning environment partially mediates the relationship: part of the social skills' influence on the outcome operates indirectly through the classroom learning environment, while a substantial direct effect remains. The standardized coefficients show that the classroom learning environment has a particularly large influence on the outcome with β equals 0.561.

Table 7. Influence of Social Skills and Academic Motivation as Mediated by the Classroom Learning Environment

Step	Path	B	S.E.	β
1	c	.726	.126	.463***
2	a	.480	.123	.344***
3	b	.613	.075	.561***
4	c'	.432	.108	.275***

* $p<0.05$, ** $p<0.01$, *** $p=0.000$

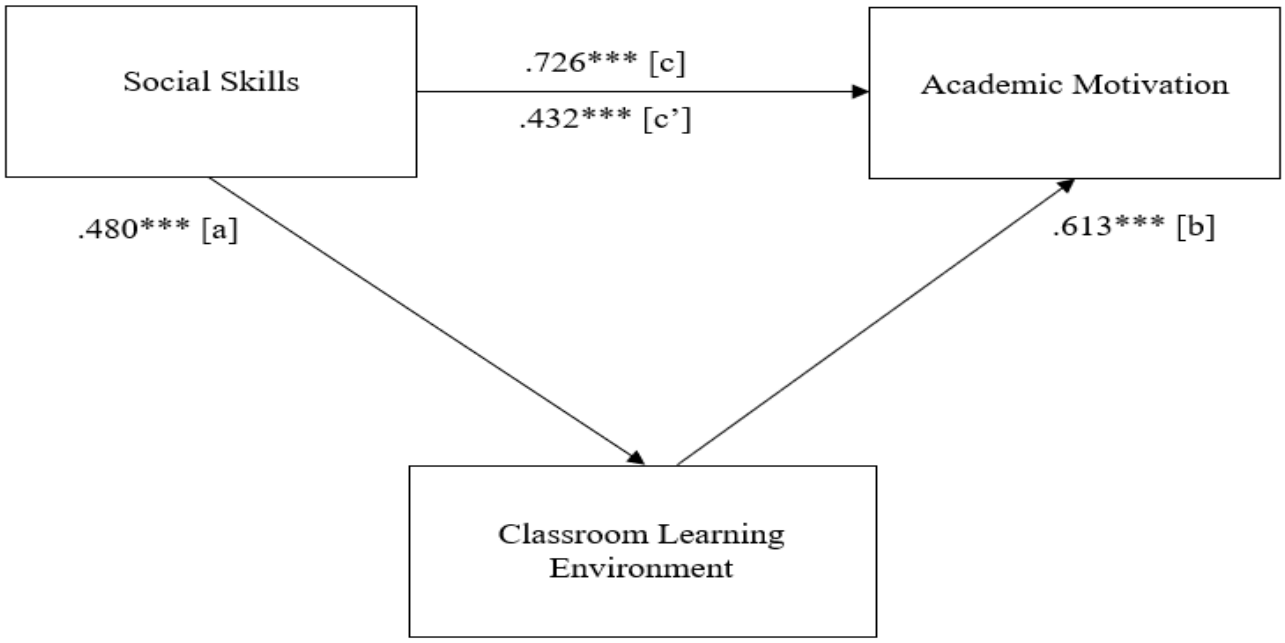
Table 7 shows that both social skills and the classroom learning environment have a significant impact on academic motivation. Likewise, social skills also considerably impact the classroom learning environment.

When all factors are considered within the same space, the direct effect of social skills on academic motivation remains significant but noticeably reduced in magnitude. From this, we can deduce that academic motivation can positively predict the quality of a classroom learning environment and vice versa. The learning environment itself only partially mediates the relationship, as part of how social skills influence academic motivation is through their indirect impact on the learning environment.

In practice, the classroom learning environment can serve as a mediator, serving as a target for intervention. However, considering the entirely cyclical nature of the relationships and impacts of the three variables, any intervention aimed at one will inevitably have positive effects on the others, creating a positive feedback loop. This observation was also noted in studies by Widiyawanti and Wahyono[12] and Xie and Zhang,[43] which explored methods to optimize the classroom learning environment and enhance its effectiveness in improving students' academic performance.

Mediation Analysis of the Three Variables

A mediation analysis tested whether academic motivation mediated the relationship between social skills (predictor) and the classroom learning environment (outcome). All estimated paths were statistically significant with a p-value of less than 0.001. The indirect effect of social skills (SS) on the classroom learning environment (CLE) is equal to 0.480. The effect of CLE on academic motivation (AM), controlling for social skills, is equal to 0.613. The direct effect of social skills on academic motivation, controlling for CLE, is 0.432. The total effect of social skills on academic motivation, unaccounted for by CLE, is 0.726. The direct effect of SS on AM remains significant after accounting for CLE but is reduced in magnitude compared to the total effect of SS on AM without accounting for CLE.



Mediation Analysis

Sobel z	3.532641, p<0.05***
Percentage of the total effect that is mediated	40.521039%
Ratio of the indirect to direct effect	0.681267

Effect Size Measures

Unstandardized Coefficients

Total:	0.726
Direct:	0.432
Indirect:	0.480
Ratio Index:	0.6612

Figure 2. Mediation Graph Showing the Mediation Analysis

Higher social skills are associated with higher academic motivation, and higher academic motivation, in turn, is associated with a better classroom learning environment. Because the direct effect remains significant after including the classroom learning environment, CLE partially mediates the relationship between social skills and academic motivation. In practical terms, some of the positive influence of social skills on academic motivation flows through increased CLE, while a substantial portion operates through other (direct) pathways.

These results strongly suggest that the nature between the three variables of social skills, academic motivation, and classroom learning environment is a positive feedback loop. This could mean that when considering what intervention to apply to any given situation, whether it be to improve the classroom learning environment or to encourage stronger, more cooperative social conduct, the only question is which aspect of the three to target primarily, as any effort made will no doubt spill over to the others inevitably.

This result somewhat ties in with prior research conducted by Ruga,[22] who observed that classrooms with students exhibiting high levels of social skills, such as self-control, cooperation, assertion, responsibility, and empathy, also had a positive classroom environment and an increase in academic motivation. Although Ruga's study did not attempt to tie these three together, it clearly shows that this phenomenon occurs at least as frequently in Philippine classrooms.[44]

Statistical Analysis on the Presence (or Absence) of Mediating Effect

The mediation analysis showed a statistically significant indirect effect of social skills on academic motivation through the classroom learning environment, with Sobel z equals 3.532641 and a p-value less than 0.05. The pattern of effects was characterized as partial mediation, indicating that the classroom learning environment partially mediates the effect of social skills on academic motivation, while a direct effect of social skills on academic motivation remains.

These findings suggest that students' social skills are associated with higher academic motivation, both directly and indirectly, by contributing to a more positive classroom learning environment. In other words, better social skills appear to improve the classroom learning environment, and that improved CLE, in turn, is linked with increased academic motivation. Because mediation is partial, social skills also influence academic motivation by other pathways not accounted for by the classroom learning environment.

Table 8. Statistical Analysis on the Presence (or Absence) of Mediating Effect

Combination of Variables	Sobel z	p-value	Mediation
social skills → classroom learning environment → academic motivation	3.532641	$p<0.05$	Partial Mediation

* $p<0.05$

The results suggest that communication, cooperation, and regulatory behavior among students are likely to be encouraged and benefit from classroom environments that support engagement, which in turn improves student motivation. The Sobel z test being significant hints at an indirect means of relevance or impact between social skills and academic motivation through the classroom learning environment. Though this means that the impact and relevance are lessened, the effect remains significantly high.

Practically, this would imply that aiming at improving student motivation should not be isolated only to applying various academic strategies, as seen well in research by Luo et al.,[45] as encouraging students to improve on their social skills and intentionally shaping the classroom learning environment to be both constructive and engaging will more than likely lead to an increase in student motivation. This also aligns with a study by Moreno and Jurado,[23] whose research, though focusing on social skills and resilience still highlights the effects of fostering these variables has on academic motivation among students.

CONCLUSION AND RECOMMENDATIONS

Based on the results of this study, the following conclusions are presented, with the data serving as the foundation. Social Skills show high descriptive levels across most indicators, suggesting that respondents agree they exhibit empathetic social skills but score lowest on externalizing behavior. This suggests a certain hesitancy in self-expression, prioritizing conformity over individuality. In addition, academic motivation is consistently described as very high across all given indicators, indicating that respondents consistently perceive themselves as highly motivated, regardless of the source implied. However, intrinsic regulation got the lowest score.

Similarly, the classroom learning environment exhibits a significant level of positive interaction among students, as evidenced by consistently high descriptive levels across all indicators. However, the indicator of values and beliefs is scored comparatively lower than the others, though it still retains a high descriptive level. More specifically, the trait of "make me think about things from a different perspective" was scored lowest in its category, which indicates that it is the quality with the greatest room for improvement. Subsequently, there is a clear and significant relationship between social skills and academic motivation. However, externalizing behavior scored the lowest. Also, there is a clear and significant relationship between social skills and the classroom learning environment, with more prosocial skills taking precedence in creating a positive relationship than more disruptive behaviors. Meanwhile, internalizing behaviors is noted to have a particularly negative impact, perhaps suggesting that anxiety plays a significant role in negatively impacting the classroom learning environment.

Finally, the findings reveal a significant relationship between the classroom learning environment and academic motivation, indicating that feelings of personal belonging among students provide leadership opportunities for peers, thereby positively and significantly influencing the academic motivation of the entire class. In contrast, persistence in major shows a clear negative correlation with academic motivation.

Based on the findings and conclusions, the following recommendations are forwarded: With regard to the Department of Education or within institutions, establish educational programs that address the subjective stigma and leverage them to foster a more positive influence on student development during their time in the classroom. For educators, students may be well-informed about the personal stake they have in performing well, as this is often taken for granted. Though cultural norms and expectations maintain high levels of motivation, encouraging self-applied motivational practices should still yield significant returns. Moreover, educators could broaden their own perspectives and continually challenge their students to consider issues from different angles. Likewise, school heads and the institution itself could adopt a more flexible outlook to enable such perspectives to be more easily applied within the school's social norms.

For institutions, promote empathy and active listening among teachers, school heads, and students. Disruptive externalizing behaviors should be addressed at their root cause, and social-emotional learning (SEL) should be incorporated into the school curriculum to further enhance the effects of these interventions. Also, train staff in social-emotional instruction, classroom management, and strategies to foster motivation.

Educators should implement strategies to identify and support students who exhibit clear anxiety in group settings, perhaps by creating smaller, more inclusive social structures to ease them into larger gatherings. Likewise, school heads and institutions should integrate diverse perspectives with care, encouraging students to think from different perspectives and ensuring that structured opportunities for participation are provided for everyone in the classroom. In addition, educators and institutions are encouraged to create classroom environments that make students feel welcome and valued. They should work with the students themselves to promote peer-to-peer interactions and empower student leadership.

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